

Remarks

The above Amendments and these Remarks are in reply to the Office Action mailed December 4, 2006. A petition for extension of time is submitted herewith, together with an appropriate fee.

I. Summary of Examiner's Rejections

Prior to the Office Action mailed December 4, 2006, Claims 1-30 were pending in the Application. In the Office Action, Claims 1-11, 14-18 and 21-24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne et al. (U.S. Patent Application No. 2001/0052012, hereinafter Rinne) in view of Kawarai et al. (U.S. Patent No. 7,016,366, hereinafter Kawarai). Claims 12, 13, 19, 20 and 25-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne in view of Kawarai in further view of Baum et al. (U.S. Patent No. 6,850,495, hereinafter Baum).

II. Summary of Applicant's Response

The present Response amends Claims 1 and 6, leaving for the Examiner's present consideration Claims 1-30. Reconsideration of the Application is respectfully requested. Applicant respectfully reserves the right to prosecute any originally presented or canceled claims in a continuing or future application.

III. Claim Rejections under 35 U.S.C. §103(a)

In the Office Action, Claims 1-11, 14-18 and 21-24 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rinne et al. (U.S. Patent Application No. 2001/0052012, hereinafter Rinne) in view of Kawarai (U.S. Patent No. 7,016,366, hereinafter Kawarai).

Claim 1

Claim 1 has been amended for purposes of clarity. As amended, Claim 1 defines:

1. *A system for providing two qualities of service from a single data stream, comprising:*
 - (a) *a storage space that stores at least one of a first quality of service choice and a second quality of service choice for each of a plurality of users;*
 - (b) *a processor programmed to direct the data stream for each user according to that user's quality of service choice;*

- (c) multicasting apparatus that receives the data stream from the processor and multicasts the data stream to each user for which the first quality of service choice is stored in said storage space; and*
- (d) a point-to-point device that receives the data stream from the processor and ensures that each user for which the second quality of service is stored in said storage space receives the data stream.*

As amended, Claim 1 defines a storage space that stores at least one of two QOS choices for each of a plurality of users. A processor is programmed to direct a data stream to each of those users according to that user's QOS choice. A multicasting apparatus and the point-to-point device are employed to achieve this goal. Thus, the multicasting apparatus multicasts the data stream to each user with the first QOS choice and the point-to-point device ensures that each user with the second choice receives the data stream.

The advantages of the features in Claim 1 include the ability to send a single message to two groups of users via two different techniques, where each group selects a different quality of service (QOS). Thus, rather than being configured as either a multicast or as a reliable source alone, the system of Claim 1 offers both services through the same channel (Specification, par. [0018]).

Rinne teaches quality of service definition for data streams. More particularly, Rinne appears to teach the ability of a user to define a different QOS policy for each application and/or each data stream of an application. Thus, Rinne essentially maps a user-defined QOS policy either to an application identifier or to a socket identifier (Rinne, par. [0020], [0059]).

Kawarai teaches a packet switch that converts variable length packets to fixed length packets and uses fewer QOS categories in the input queues than in the output queues. More particularly, Kawarai appears to disclose a hardware packet divider that takes fixed-length packets and stores them into queues by output lines and by QOS classes. For example, a large number of QOS classes are mapped into only two kinds of classes – a guaranteed bandwidth class and a best effort class (Kawarai, Abstract). Thus, Kawarai appears to disclose a hardware divider that separates packets into different bandwidths according to the type of QOS class that they have been assigned (Figs 54, 58-60). In other words, Kawarai appears to buffer packets and assign them to different queues based on their priority.

However, Applicant respectfully submits that Rinne in combination with Kawarai fail to disclose the features of Claim 1.

Firstly, both Rinne and Kawarai fail to disclose a processor programmed to direct the data stream for each user according to that user's quality of service choice, as defined in Claim 1. In the Office Action, it was proposed that Rinne discloses this feature of Claim 1 in paragraphs [0057]-[0060]. Applicant respectfully disagrees. The cited portions of Rinne merely disclose the ability of a user to assign a different QOS policy to each application, or to each socket connection (par. [0059]). This is entirely different from directing the data stream to each user according to that user's QOS choice, as defined in Claim 1. For example, mapping a QOS policy to an application identifier would merely force that application to use the QOS policy. Similarly, mapping a QOS policy to a socket identifier would presumably force that socket to use the QOS policy. In neither case would the message be directed to each user according to that user's QOS choice, as defined in Claim 1. The embodiments of Claim 1 allow a single message to be sent to two groups of users, each group selecting a different quality of service (Abstract). No such functionality is disclosed anywhere in Rinne. Accordingly, Rinne fails to disclose a processor that is programmed to direct the data stream for each user according to that user's quality of service choice, as defined in Claim 1.

Secondly, both Rinne and Kawarai fail to disclose a multicasting apparatus that multicasts the data stream to each user for whom the first quality of service choice is stored in the storage space and a point-to-point device that ensures that each user with the second choice receives the data, as defined in Claim 1.

In the Office Action, it was agreed that Rinne fails to disclose multicasting the data stream to each user for which the first choice is stored in the storage space and ensuring that each user with the second quality of service choice receives the data stream (Office Action, page 3). It was proposed, however that Kawarai teaches these features of Claim 1.

Applicant respectfully disagrees. Kawarai merely discloses a hardware device that buffers data packets according to priority. For example, incoming traffic can be of different QOS classes (e.g. guaranteed bandwidth or best effort). The input packets are demultiplexed and assigned to priority queues based on these QOS classes. However, this is entirely different from multicasting a message or point-to-point sending the message to a user based on that user's stored choice, as defined in Claim 1. For example, the system of Claim 1 determines which QOS choice is associated with each user and then either multicasts or point-to-point ensures delivery of messages to the user based on his/her choice. No such functionality is described in Kawarai. Instead, Kawarai merely assigns packets to queues based on their quality of service. Assigning a packet to a queue according to their QOS is not the same as delivering a data stream to a user according to that

user's QOS choice, as defined in Claim 1. Kawarai completely fails to disclose any user's QOS choice being stored in a storage space, nor selectively multicasting/ensuring delivery to certain users based on that stored choice, as defined in Claim 1.

In light of the above comments, Applicant respectfully submits that Claim 1 is neither anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

Claim 8

Claim 8 contains at least some of the features similar to Claim 1 and therefore the remarks made in connection with Claim 1 are incorporated herein by reference. Furthermore, Claim 8 defines processing each message received on a data stream using a single API and then redirecting the message to each user by that user's QOS choice. Neither Rinne nor Kawarai appear to be concerned with such functionality. For example, Kawarai does not appear to disclose any application programming interfaces (APIs) since it is concerned with hardware devices for buffering data packets. Rinne, on the other hand, does mention a socket API that provides a series of system calls that applications can invoke to request socket connections (Rinne, par. [0010]). However, there is no disclosure of processing each message by using a single API and then redirecting each message to users based on their QOS choices by using that API. Accordingly, Applicant respectfully submits that Claim 8 is not anticipated nor rendered obvious by Rinne in combination with Kawarai, and reconsideration thereof is respectfully requested.

Claims 15 and 21-24

Claims 15 and 21-24, while independently patentable, recite limitations that, similarly to those discussed above with respect Claim 1, are not taught, suggested, nor otherwise rendered obvious by the cited references. Reconsideration thereof is respectfully requested.

Claims 2-7, 9-14, 16-20 and 25-30

Claims 2-7, 9-14, 16-20 and 25-30 are not addressed separately, but it is respectfully submitted that these claims are allowable as depending from an allowable independent claim, and further in view of the comments provided above. Applicant respectfully submits that Claims 2-7, 9-14, 16-20 and 25-30 are similarly neither anticipated by, nor obvious in view of the cited references, and reconsideration thereof is respectfully requested.

It is also submitted that these claims also add their own limitations which render them patentable in their own right. Applicant respectfully reserves the right to argue these limitations should it become necessary in the future.

IV. Conclusion

In view of the above remarks, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and reconsideration thereof is respectfully requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. 1.136 for extending the time to respond up to and including April 4, 2007.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

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